

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 38-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The newly amended claim 38 specifies “data associated with a device profile and an audio profile”. This newly added limitation is not supported by the specification and the drawings as originally filed. On p. 14, lines 9-16, it is clearly stated that the audio profile includes a user profile and a device profile. On p. 16, lines 14-22, the audio profile is also defined including a device profile and a user profile. As shown in Fig. 2, the audio profile 230 includes separate entities 225. Some of the entities define the device profile, and some of the other entities define the user profile. Based on these disclosures, one skilled in the art would have expected the device profile is a part of the audio profile. If arranging the audio profile, a user profile and a device profile into a class and subclass hierarchy in view of the specification as originally filed, the audio profile would be placed on top as the class with user profile and device profile being linked to the audio profile as the subclasses. The amended claims imply that the device

Art Unit: 2614

profile and the audio profile are separate units and they are in the same level of hierarchy. The current invention as disclosed cannot have audio profile and device profile as two independent units simultaneously. Therefore, the amended claim 38 and claims depending on it introduce new matter.

***Claim Rejections - 35 USC § 102***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 29, 30, 37 and 42-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Lemelson et al (hereafter Lemelson) (US 7,110,951).

Regarding claim 29, Lemelson discloses a method and a corresponding apparatus, comprising:

receiving data indicative of acoustic conditions proximate to an audio presentation device (TV) (for reducing ambient noise by 22 in Fig. 2; Fig. 8 shows the microphone 84; Fig. 3 is also used for reducing background noise; col. 12, lines 29-30; "system noise" as specified on line 36 of col. 12);

receiving data (reads on user's response as specified on col. 5, lines 38-42; according to dictionary, data means factual information) indicative of a detected acoustic test signal;

receiving data associated with at least one audio profile (26 or 24); and

determining acoustic data to be provided based on at least a portion of the received data indicative of acoustic conditions proximate to the audio presentation

Art Unit: 2614

device, at least a portion of the data indicative of a detected acoustic test signal (user's response), and at least a portion of the data associated with the at least one audio profile (26 or 24). See col. 3, lines 5-58, col. 8, line 67, col. 9, lines 1-2 and col. 18, lines 2-9. The claimed processor reads on the processor 14 as shown in Fig. 2. The CPU (14) performs the functions according to a computer program product in a computer readable medium (col. 18, lines 58-59). As shown in Fig. 2, the CPU receives data from each unit (16, 22, 24, 26, 28, 30, 32 and 34).

Regarding claim 30, Lemelson shows that the test signal is provided (col. 5, lines 24-30).

Regarding claim 37, Lemelson shows the CPU (14) determines that a new user uses the audio presentation device (through button 132 as shown in Fig. 10; col. 7, lines 24-25).

Regarding claims 42, 44 and 45, Lemelson discloses a method, comprising:  
receiving data indicative of a detected acoustic test signal (user's responses; col. 5, lines 38-42; according to dictionary, data means factual information);

receiving data indicative of acoustic conditions proximate to an audio presentation device (for reducing ambient noise by 22 in Fig. 2; Fig. 8 shows the microphone 84; Fig. 3 is also used for reducing background noise; col. 12, lines 29-30; "system noise" as specified on line 36 of col. 12);

receiving data associated with a user profile (26) and a device profile (24; col. 4, lines 41-58; col. 10, lines 37-41 ); and

determining acoustic data to be provided based on at least a portion of the received data indicative of acoustic conditions proximate to the audio presentation device and at least a portion of the data associated with the user profile and the device profile (col. 3, lines 50-58; col. 8, line 67, col. 9, lines 1-2; col. 18, lines 2-9).

Regarding claim 43, Lemelson discloses the capability, a characteristic, or a capability and a characteristic of a display device (col. 11, lines 26-51).

5. Claims 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Rader et al (hereafter Rader) (US 6,944,474).

Regarding claims 29 and 30, Rader discloses a computer program product in a computer readable medium which, when executed by a processor, performs a method comprising:

receiving data indicative of acoustic conditions proximate to an audio presentation device (mobile phone) (102 in Fig. 1; col. 2, lines 63-64);

receiving data indicative of a detect acoustic test signal (data, according to dictionary, means factual information; col. 3, lines 9-14, "...user to providing information...hearing test ... audio stimuli...");

receiving data associated with at least one audio profile (100 or 101) and  
determining acoustic data to be provided based on at least a portion of the received data indicative of acoustic conditions proximate to the audio presentation device, at least a portion of the data indicative of a detected acoustic test signal, and at least a portion of the data associated with the least one audio profile (105).

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 13, 29, 30, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rader et al (hereafter Rader) (US006944474B2) in view of Lewis et al (hereafter Lewis) (US006192255B1).

In view of 112, 1st paragraph rejection, "audio profile" specified in claim 38 has been treated as "user profile" for examination purpose.

Regarding claims 1, 13, 29, 30, 38 and 39, Rader discloses a method and a corresponding apparatus comprising:

receiving data indicative of acoustic conditions proximate to an audio presentation device (mobile phone) (102 in Fig. 1);

receiving data indicative of a detected acoustic test signal (data, according to dictionary, means factual information; col. 3, lines 9-14, "...user to providing information...hearing test ... audio stimuli...");

receiving data associated with a user profile (100) and a device profile (920 in Fig. 10, 101 in Fig. 1 or col. 8, lines 2-4) and

determining acoustic data to be provided based on at least a portion of the received data indicative of acoustic conditions proximate to the audio presentation device, at least a portion of the device profile, and at least a portion of the data associated with the user profile (100) and the device profile (920 in Fig. 10, 101 in Fig. 1, or col. 8, lines 2-4).

Rader teaches that the transfer of the profiles from a remote location to the mobile phone is allowed once the user entering PIN (col. 7, lines 38-45; col. 7, line 58-67; col. 8, lines 1-6) at the mobile phone. Rader fails to use the exact words "authenticating a user identification". Lewis also teaches a mobile phone that allows user requesting information retrieval from a remote site (abstract). Lewis explicitly states that PIN could be used for authentication (col. 4, lines 47-48) for ensuring communication security. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made, with both references before him/her, to use PIN for authentication in order to provide secure communication between the mobile phone and the remote site.

8. Claims 1, 10, 13, 36, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson.

In view of 112, 1st paragraph rejection above, "audio profile" as specified in claim 38 has been read as "user profile" for examination purpose.

Regarding claims 1, 10, 13, 36, 38 and 39, Lemelson fails to show that the user's identification is being authenticated. Lemelson teaches that the hearing test could be performed locally and the hearing profile can be stored and recalled later. The device profile could be updated by placing the remote control at different locations (col. 13, lines 40-60). Since the television as disclosed in Lemelson is shared by a plurality of users, someone other than the user could have the access of the personal hearing profile if there is no restriction on who can recall the hearing profile or modifying the device profile if the device profile is not "locked away" electronically. User B might

Art Unit: 2614

accidentally erase/modify the hearing file or device profile of User A who has a hearing impairment at 3 kHz and prefers to sit at a particular location. Examiner takes Official Notice that authenticating an user identification was notoriously well known in the art. Thus, one skilled in the art at the time of the invention was made would have been motivated to modify Lemelson by providing a well known access protection, such as authenticating the user, to prevent other people from accidentally erase/modify the hearing profile and device profile, or simply for privacy reason.

9. Claims 31 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson in view of Feezor et al (hereafter Feezor) (US 3,808,354).

Regarding claims 31 and 40, Lemelson fails to show receiving a portion of the acoustic test signal from an acoustic detector. Feezor teaches that it is important to measure the acoustic test signal at the testing location in order to determine whether the testing result is valid (col. 40, lines 51-53) during the hearing test. Thus, it would have been obvious to one of ordinary skill in the art to modify Lemelson in view of Feezor by receiving the acoustic test signal during the testing in order to validate the hearing test result.

10. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson in view of Feezor as applied to claim 40 above, and further in view of Hotvet (US 5,550,923).

Regarding claim 41, Lemelson teaches how to use an adaptive filter to obtain the optimal filter coefficients to cancel noise and enhance the speech; however, it fails to clearly discuss that the signal-to-noise ratio is being used for enhancing the speech.

Art Unit: 2614

Hotvet teaches how to use the SNR based on the signal and noise to determine the optimal hearing (col. 9, lines 19-60). Thus, it would have been obvious to one of ordinary skill in the art to further modify Lemelson and Feezor in view of Hotvet by utilizing the determined SNR in combination with the adaptive filter in order to enhance the speech intelligibility.

11. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson in view of Rader.

Regarding claim 46, Lemelson fails to show that the processor is located remotely from the audio presentation device. Lemelson's processor is located with the television. Rader teaches an audio presentation device which allows the audio signal to be generated to compensate hearing impairment of the user. Rader suggests that a processor could be located remotely from the audio presentation device (col. 7, lines 32-33), so the processor could be shared by a plurality of users and audio presentation devices, and the audio presentation devices could be made with less cost and size without the processor. Thus, it would have been obvious to one of ordinary skill in the art to modify Lemelson in view of Rader by using a remotely located processor to process the hearing profile, ambient noise condition and the room acoustics in order to reduce the cost of the television and its size as well.

### ***Response to Arguments***

12. Applicant's arguments filed 1/15/09 have been fully considered but they are not persuasive.



In response to applicant's arguments that the 112, 1<sup>st</sup> paragraph rejection is improper, they are not persuasive.

The first final office action mailed on 11/28/07 includes a new matter rejection especially for independent claims 1, 13, 38 and 42, which is similar to the new matter rejection in the last office action mailed on 7/15/08 especially for independent claim 38. In view of the first final office action mailed on 11/28/07, applicant amended claims 1, 13 and 42 (but not claims 38) and filed RCE. Specifically, applicant replaced "an audio profile and a device profile" with --a user profile and a device profile--. The amendment correctly identified that the user profile and the device profile are in same level in terms of class-subclass hierarchy. The amendment also corresponds to definition as provided by the specification as originally filed. Referring back to the current amendment filed on 1/15/09, applicant argued that it is proper to define data associated with "an audio profile and a device profile" for claim 38. This argument clearly is not consistent with the previous amendment with respect to claims 1, 13 and 42, and clearly is not consistent with the specification as originally filed.

The word "and" is, according to Webster's Ninth New Collegiate Dictionary, used as a function word to indicate connection or addition esp. within the same class or type; used to join sentence elements of the same grammatical rank or function. On p. 14, lines 9-16, the specification as originally filed explicitly stated that the audio profile includes a user profile and device profile. On p. 16, lines 14-22, the specification as originally filed explicitly stated that the audio profile includes a device profile and a user profile. If following applicant argument, the specification as originally filed could state

Art Unit: 2614

“an audio profile includes a device profile and an audio profile”. It is noted that applicant does not use such, or similar statement in the specification as originally filed to define the relationship between the device profile and the audio profile. Clearly, applicant’s argument does not follow the simple grammar rule when using the word “and” to connect the two elements.

The audio profile, as defined by the specification as originally filed, is in different class from the device profile and the user profile. Therefore, it is improper to link device profile and the audio profile using the word “and” as stated in the phrase “data associated with a device profile and at least one audio profile” specified in claim 38.

Applicant stated on p. 7 that the specification as originally filed discloses one embodiment with the audio profile including a device profile and a user profile. As shown in Fig. 2, and the correspond text on lines 9-16 of p. 14 in the specification as originally filed, it is been explicitly illustrated that the audio profile (230) includes device profile (some of 225) and user profile (other some of 225).

Examiner would like to ask applicant to point out other embodiment(s) explicitly being disclosed in the specification having the data associated with a device profile and at least one audio profile. That is, by placing the device profile and the audio profile in the same rank. Even though applicant indicates that the present invention is not limited, there is no suggest in the specification as originally filed to fairly suggest that the device profile and the at least one audio profile are in the same class, so to receive data associated with a device profile and at least one audio profile.

On p. 9 of the argument, applicant stated that “in the illustrated embodiment, the audio profile includes the device profile”. Applicant’s statement is misleading by omitting the important detail that the audio profile includes the device profile and the user profile. Claim 38 states “data associated with a device profile and at least one audio profile”. Claim 38 links a device profile and the at least one audio profile with the word “and”, not the phrase such as “data associated with audio profile includes the device profile”. Examiner agrees that when one receives data associated with a device profile it necessarily also receives data associated at least one audio profile. However, the word “and” in the phrase “data associated with a device profile and at least one audio profile” does not correctly state the relationship that the audio profile includes the device profile and they are not in the same rank.

In response to applicant’s argument that Lemelson fails to show a computer program product “receiving data indicative of a detected acoustic test signal” in claims 29, 30, 37 and 42-45, because inanimate objects do not “hear”, this is not convincing. Examiner does not state that the computer program product in Lemelson “hears”. In the rejection, it is explained that the computer program product in Lemelson receives data indicative of a detected acoustic test signal. On col. 5, lines 38-42, Lemelson discloses that the computer program product receives the data from the user indicative of a detected acoustic test signal. Applicant's comparison between the rejections for claims 29-30 and for claims 42-45 does not serve justice. Each set of claims define individual inventions. If applicant believes claims 29-30 define an invention having the same

Art Unit: 2614

scope as in claims 42-45, perhaps applicant should cancel one set of the claims.

Furthermore, for claims 42-45, the rejection does not indicate that a method “hears” a response. The rejection clearly stated that the method receives data indicative of a detected acoustic test signal by receiving the user’s responses. In Lemelson, it is an apparatus, not a person, receives data indicative of a detected acoustic test signal.

In response to applicant’s continued argument with respect to the device profile being missing from Lemelson, it is still not convincing. It is queer that applicant copied examiner’s response from the first final rejection mailed 11/28/07, while the response should direct to the most recent office action mailed on 7/15/08. Furthermore, applicant only copied the previous argument received on 5/28/08 without provided another further analysis in response to examiner’s comment mailed on 7/15/08. Therefore, examiner believes that the previous argument still applies and sufficient. Applicant argued that Lemelson fails to show a device profile. Examiner disagrees. On col. 4, lines 41-58 and col. 10, lines 36-56, the audio sound from the speaker is modified based on the room acoustics. The equalization/compensation (24) in Lemelson stores the device profile that would be used with the user profile (26) to compensate the hearing impairment of a user located at the particular environment.

In response to applicant’s argument that Rader’s device does not detect a signal, this is not persuasive. It is noted that the features upon which applicant relies (i.e., “acoustic test signal is detected by an electro-mechanical transducer and is not used in

Art Unit: 2614

a hearing test”) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Examiner does not state that the computer program product in Rader “hears”. In the rejection, it is explained that the computer program product in Rader receives data indicative of a detected acoustic test signal. On col. 3, lines 9-14, Rader discloses that the computer program product receives the data from the user indicative of a detected acoustic test signal.

In response to applicant’s argument that Rader fails to show a device profile, this is not persuasive. In the rejection, the claimed device profile has been indicated that it reads on element 101 in Fig. 1. Applicant wrongly interpreted element 101 as a user profile. This is not what the rejection stated. The last office action mailed on 7/15/08 indicates that the user profile reads on element 100, not element 101 as alleged by applicant. Element 100 can be read as the claimed user profile because it includes individual's hearing audibility which can be obtained by downloading it from a remote location or calculating it after performing the on-site hearing test (see col. 7). Element 101, being read as the device profile, is used to set the parameters on the personal device to enhanced the sound. See col. 8, line 59 + and col. 9, lines 1-30. The volume level is being explicitly mentioned. Although the final volume being selected is determined by the user, the determined final volume sets up the device to be performed in a certain way. This is different from the user profile, element 100, because the user

Art Unit: 2614

profile only represents the audibility of the user (such as whether the user has hearing loss at 3 kHz). The user profile itself does not set up how the device would function. On the contrary to applicant's interpretation, the volume control knob is used to profile the device. The position of the volume control knob would map the appropriate coefficients for the compression (col. 15, lines 2-4). As mentioned on col. 6, line 61+, Rader discloses that the compression defines how the device would react to the input signal level. How to define the compression? It is defined by the compression coefficients. On col. 8, lines 1-6, Rader discloses the profile calculation on either subsystem could be provided with the phone or downloaded to the phone. In view of Rader as a whole, the profile calculation in a subsystem includes the profile calculation of a device profile. By using the device profile (101), the audio data is determined. See Fig. 1, element 105 is affected by 101, so the audio data 107 is affected by 101. The embodiment show in Fig. 10 illustrates how the device profile, as mapped by the volume knob position 920, determines acoustic data from 923 to be provided to the output 925.

In response to applicant's argument that examiner fails to establish a prima facie case of obviousness, this is not persuasive. Applicant alleged that the Office "does not directly allege Lemelson et al. discloses this limitation". Applicant is reminded to refer back to 102 rejection for claim 42 in view of Lemelson. In the last office action mailed 7/15/08, it is stated that a user profile reads on element 26 and a device profile reads on element 24. Col. 4, lines 41-58 and col. 10, lines 37-41 provide further detail. Applicant correctly cited the text on col. 13, lines 40-60, but misinterpreted what the text

Art Unit: 2614

disclosed. Lemelson wants to equalize the sound level for a particular listening location. How to perform the equalization? By adjust the gain at certain frequencies, aka, frequency control. How to adjust gain? It is by adjusting the device, such as amplifier or equalizer on the device. So, one skilled in the art, after reading Lemelson, would understand that the determined equalization of the sound level as mentioned in Lemelson defines the device profile. Therefore, Lemelson in view of Feezor teach or suggest all the claimed limitations.

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522.

The examiner can normally be reached on Wednesday through Friday.

Art Unit: 2614

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ping Lee/  
Primary Examiner, Art Unit 2614

pwl